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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DIBRINO, MARIANNE NMN	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,301	REITER ET AL.	
	Examiner	Art Unit	
	DiBrino Marianne	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/2/02 & 11/4/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) *5,22,27-62 and 64* is/are withdrawn from consideration.

5)☒ Claim(s) *63* is/are allowed.

6)☒ Claim(s) *1-4,6-21 and 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/23/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment filed 7/2/02 and Applicant's response filed 11/4/04 are acknowledged and have been entered.

2. Applicant's election of the Group I (claims 1-26 and 63) molecule comprising an antibody with the sequence of SEQ ID NO: 9 specifically bindable with HLA-A2.1/SEQ ID NO: 2 (gp100 peptide G9-209M, IMDQVPFSV) and species of fluorescent dye as the specific identifiable moiety in Applicant's response filed 11/4/04 is acknowledged. (It is noted by the Examiner that Applicant's election contained a spelling error, i.e., "molecule comprising an antibody with the sequence of SEQ ID NO: 9 specifically bindable with HLA-A21/SEQ ID NO: 2 (gp100 peptide G9-209M, IMSQVPFSV), number 1" bolded by the Examiner. It is presumed that Applicant meant HLA-A2.1.)

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-4, 6-21, 23-26 and 63 read on the elected Group and species.

Accordingly, claims 5 and 22 (non-elected species of Group I) and claims 27-62 and 64 (non-elected groups II-IX) are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions.

Claims 1-4, 6-21, 23-26 and 63 are currently being examined.

3. The formal drawings for figures 1-7 were received on 7/2/02. These drawings are acceptable.

4. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code such as for example on: page 31 at line 10, page 34 at line 8, page 37 at line 12, page 39 at lines 4 and 17 and page 40 at line 11. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP 608.01.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7-9, 12, 14-16, 19-21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Chames et al (Applicant's IDS reference).

Chames et al teach an antibody/composition thereof specific for HLA-A1/MAGE-A1 (EADPTGHSY) tumor peptide that has a binding affinity below 20nM to HLA-A1. Chames et al teach that the G8 antibody was affinity matured to gain an 18-fold increase in affinity without loss of peptide specificity over that of G8, i.e., from 250 nM to about 13 nM. Chames et al teach that antibodies specific for the tumor-associated antigen MAGE-A1 tumor peptide may be used as a targeting agent/moiety to deliver toxins (as an immunotoxin conjugate) or cytokines (as an immunocytokine) or as a bi-specific antibody specifically to the tumor site, and the use of the antibody-conjugates/compositions thereof for immunodiagnostic applications such as by flow cytometry or immunohistochemistry, and immunotherapeutic applications. Chames et al teach the antibody/composition thereof with a hexahistidine tag, i.e., a label or an indentifiable moiety (see entire article, especially Discussion, page 7973 at the second to last paragraph and page 7972 at column 1).

The intended use of the composition of claims 19-21 and 24 as "diagnostic" does not carry patentable weight per se and the claims read on the active or essential ingredients of the composition.

7. Claims 1, 3, 4, 6-13, 15-19, 21 and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/02342 A1 (Applicant's IDS reference).

WO 97/02342 A1 teaches antibodies specific for antigenic peptide/MHC class I molecules, including viral, autoimmune and tumor-derived antigenic peptides and including HLA-A, B or C of humans, said antibodies in pharmaceutical compositions with pharmaceutically acceptable excipients well known in the art are used for treatment of infectious or autoimmune disease or cancer, and compositions comprising the antibodies, kits thereof, for diagnosis of said diseases and cancer by identification of expression of the complexes on cells. WO 97/02342 A1 teaches production of said antibodies by producing mice transgenic for the said HLA molecules, immunizing the mice with the said antigenic peptide/HLA molecules and producing the antibodies using phage display library technology. WO 97/02342 A1 teaches labeling the antibodies with enzyme or biotin or a therapeutic moiety such as SEA, antibiotics, cytotoxic or antineoplastic agents, with toxins, or making bispecific antibodies, i.e., a bispecific antibody moiety. WO 97/02342 A1 teaches affinity of the antibodies are from 10^{-7} to 10^{-10} M, i.e., the range includes 1 nM, i.e., less than 20 nM recited in instant claim 1. WO 97/02342 A1 further teaches that the affinity or other thermodynamic characteristics of the antibodies may be

altered using conventional techniques to prepare antibodies with the same specificity, i.e., such as with the same specificity and higher affinity (see entire document).

The intended use of the composition of claims 19, 21 and 23-26 as "diagnostic" does not carry patentable weight per se and the claims read on the active or essential ingredients of the composition.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-4, 6-9, 12-16, 19-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chames et al (Applicant's IDS reference) in view of EP 1178116 A1 and Harlow et al (Antibodies a Laboratory Manual, page 2871988) and Remington's Phamaceutical Sciences (18th Ed., 1990, page 1579).

Chames et al teach an antibody/composition thereof specific for HLA-A1/MAGE-A1 (EADPTGHSY) tumor peptide that has a binding affinity below 20nM to HLA-A1. Chames et al teach that the G8 antibody was affinity matured to gain an 18-fold increase in affinity without loss of peptide specificity over that of G8, i.e., from 250 nM to about 13 nM. Chames et al teach that antibodies specific for the tumor-associated antigen MAGE-A1 tumor peptide may be used as a targeting agent/moiety to deliver toxins (as an immunotoxin conjugate) or cytokines (as an immunocytokine) or as a bi-specific antibody specifically to the tumor site, and the use of the antibody-conjugates/compositions thereof for immunodiagnostic applications such as by flow cytometry or immunohistochemistry, and immunotherapeutic applications. Chames et al teach the antibody/composition thereof with a hexahistidine tag, i.e., a label or an indentifiable moiety (see entire article, especially Discussion, page 7973 at the second to last paragraph and page 7972 at column 1).

Chames et al does not teach wherein the molecule comprising the antibody is conjugated to a fluorescent protein, nor wherein the pharmaceutical composition comprising the molecule that comprises the antibody conjugated to a therapeutic moiety such as a toxin or cytokine or bispecific antibody moiety further comprises a pharmaceutically acceptable carrier, nor wherein the diagnostic composition comprising the antibody comprises an antibody conjugated to a fluorescent protein or enzyme.

EP 1178116 A1 teaches labeling a polypeptide of interest with a detectable molecule bound to it, said detectable molecule such as an enzyme or a fluorescent protein such as GFP that is used in histocytochemistry or YFP or luciferase protein (entire document, especially pages 17-18 at sections [0181]-[0190]).

Harlow teaches a pharmaceutically acceptable carrier such as PBS was well known in the art as solvent for immunoglobulins for storage and immunoassays.

Remington's Pharmaceutical Sciences teaches typical pharmaceutical carriers for intra-veinous administration includes Normal Saline Solution.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have conjugated the antibody-conjugate/compositions thereof for immunodiagnostic applications such as flow cytometry or immunohistochemistry taught by Chames et al to a fluorescent protein or to an enzyme such as those in the polypeptide-fluorescent protein or polypeptide-enzyme conjugates taught by EP 1178116 A1.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to perform flow cytometry or immunohistochemistry as taught by Chames et al and by EP 1178116 A1 for the immunodiagnosis using the antibody conjugates taught by Chames et al and the labels present in the labeled polypeptides taught by EP 1178116 A1.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have formulated the antibody-therapeutic moiety conjugate taught by Chames et al in a pharmaceutically acceptable carrier such as that taught by Harlow et al or by Remington's Pharmaceutical Sciences.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to use the antibody/antibody conjugates for the immunotherapeutic applications taught by Chames et al because the antibody/conjugate thereof would necessarily have to be formulated for administration in vivo, and Harlow teaches the advantage of using PBS (phosphate buffered saline) for storing antibodies, and Remington's teaches use of normal saline (i.e., normal, i.e., normalized for isotonicity and pH) for in vivo administration.

10. Claims 1-4, 7-21 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chames et al (Applicant's IDS reference) in view of Anderson et al (PNAS USA 93: 1820-1824, 1996, Applicant's IDS reference), Harlow et al (Antibodies a Laboratory Manual, page 287, 1988) and Remington's Phamaceutical Sciences (18th Ed., 1990, page 1579).

Chames et al teach an antibody/composition thereof specific for HLA-A1/MAGE-A1 (EADPTGHSY) tumor peptide that has a binding affinity below 20nM to HLA-A1. Chames et al teach that the G8 antibody was affinity matured to gain an 18-fold increase in affinity without loss of peptide specificity over that of G8, i.e., from 250 nM to about 13 nM. Chames et al teach that antibodies specific for the tumor-associated antigen MAGE-A1 tumor peptide may be used as a targeting agent/moiety to deliver toxins (as an immunotoxin conjugate) or cytokines (as an immunocytokine) or as a bi-specific antibody specifically to the tumor site, and the use of the antibody-conjugates/compositions thereof for immunodiagnostic

applications such as by flow cytometry or immunohistochemistry, and immunotherapeutic applications. Chames et al teach the antibody/composition thereof with a hexahistidine tag, i.e., a label or an indentifiable moiety (see entire article, especially Discussion, page 7973 at the second to last paragraph and page 7972 at column 1). Chames et al teach several other MAGE-A1 epitopes presented by HLA-A3,-A24, -A28, or -Cw8.

Chames et al does not teach wherein the molecule comprising the antibody is specific for a human MHC class I molecule (including HLA-A3,-A24, -A28, or -Cw8) complexed with a viral or autoimmune-restricted antigen, nor wherein the pharmaceutical composition comprising the molecule that comprises the antibody conjugated to a therapeutic moiety such as a toxin or cytokine or bispecific antibody moiety further comprises a pharmaceutically acceptable carrier.

Anderson et al teach production of anti-peptide /MHC antibodies using phage display technology, either using non-immunization or immunization-based libraries, the said antibodies having affinity in the nanomolar range. Anderson et al teach use of such antibodies diagnostically, or conjugated to toxins and used therapeutically. Anderson et al further teach antibodies specific for MHC class I molecules complexed with peptides from viral or autoimmune proteins for eradicating virus-infected cells or blocking inappropriate autoimmune responses (entire article, especially last two paragraphs on page 1823 and continuing on to page 1824 at column 1). Anderson et al exemplify antibody against MHC class I murine K^k complexed with influenza virus-derived peptide HA 255-262.

Harlow teaches a pharmaceutically acceptable carrier such as PBS was well known in the art as solvent for immunoglobulins for storage and immunoassays.

Remington's Pharmaceutical Sciences teaches typical pharmaceutical carriers for intra-veinous administration includes Normal Saline Solution.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made MHC class I/peptide specific antibodies with anti-viral or anti-autoimmune antigen specificity as taught by Anderson et al, but against a human MHC class I/peptide combination such as taught by Chames et al using the methodologies taught by Chames et al and Anderson et al, and to have formulated the antibodies in a pharmaceutically acceptable carrier as taught by Harlow et al or by Remington's Pharmaceutical Sciences.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to use the antibodies/compositions thereof for the immunodiagnostics or immunotherapeutics such as taught by Chames et al and by Anderson et al for the applications taught by Anderson et al such as eradicating virus-infected cells or blocking inappropriate autoimmune responses. One of ordinary skill in the art at the time the invention was made would also have been motivated to do this in order to use the antibody/antibody conjugates for the immunotherapeutic applications taught by Chames et al because the antibody/conjugate

thereof would necessarily have to be formulated for administration in vivo, and Harlow teaches the advantage of using PBS (phosphate buffered saline) for storing antibodies, and Remington's teaches use of normal saline (i.e., normal, i.e., normalized for isotonicity and pH) for in vivo administration.

11. Claims 1-4, 6-21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/02342 A1 (Applicant's IDS reference) in view of Rammensee et al (MHC Ligands and Peptide Motifs. 1997, Springer, pages 235-281).

WO 97/02342 A1 teaches antibodies specific for antigenic peptide/MHC class I molecules, including viral, autoimmune and tumor-derived antigenic peptides and including HLA-A, B or C of humans, said antibodies in pharmaceutical compositions with pharmaceutically acceptable excipients well known in the art used for treatment of infectious or autoimmune disease or cancer, and compositions and kits thereof comprising the antibodies for diagnosis of said diseases and cancer by identification of expression of the complexes on cells. WO 97/02342 A1 teaches production of said antibodies by producing mice transgenic for the one of the said HLA molecules, immunizing the mice with the said antigenic peptide/HLA molecules, producing and selecting the antibodies using phage display library technology. WO 97/02342 A1 teaches labeling the antibodies with enzyme or biotin or a therapeutic moiety such as SEA, antibiotics, cytotoxic or antineoplastic agents, with toxins, or making bispecific antibodies, i.e., a bispecific antibody moiety. WO 97/02342 A1 teaches affinity of the antibodies are from 10^{-7} to 10^{-10} M, i.e., the range includes 1 nM, i.e., less than 20 nM recited in instant claim 1. WO 97/02342 A1 further teaches that the affinity or other thermodynamic characteristics of the antibodies may be altered using conventional techniques to prepare antibodies with the same specificity, i.e., such as with the same specificity and higher affinity (see entire document).

WO 97/02342 A1 does not teach wherein the HLA molecule is HLA-A2.

Rammensee et al teach MHC class I molecules HLA-A2, -A1, -A3, -A24, -A31, -A33, -B7, -B45 and –Cw8, and T cell epitopes presented an individual HLA molecule, i.e., antigenic and immunogenic peptides, such as ILGFVFTLTV from Influenza MP [59-68] protein that binds to HLA-A2.1.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made the antibodies/compositions thereof taught by WO 97/02342 A1 specific for the class I MHC molecules in combination with an antigenic peptide from a viral, tumor or autoimmune antigen as taught by taught by Rammensee et al as per the teaching of WO 97/02342 for HLA molecules.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to treat, diagnose or monitor a condition, such as for instance influenza infection taught by WO 97/02342 A1 for an HLA-A positive individual such as an HLA-A2 positive individual taught by Rammensee et al using the T cell epitope peptide ILGFVFTLTV taught by Rammensee et al.

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-4, 6-10, 12-17, 19-21 and 23-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 6, 8-13 and 22-24 of copending Application No. 10/371,942 (publication US 2003/0223994 A1) in view of WO 97/02342 A1 (Applicant's IDS reference), WO 95/29193 A2 and Rammensee et al. This is a provisional obviousness-type double patenting rejection.

Claims 1 and 2 of 10/371,942 encompass an antibody specific for an MHC/antigenic peptide complex wherein the peptide is a fragment of gp100, MUC1, Tax or hTert, and claim 4 recites the peptide from gp100 G9-209, IMDQVPFSV, claim 6 recites the tax-derived peptide LLFGYPVYV, claim 11 recites wherein the VH and VL domains are components of the same polypeptide chain, i.e., single chain, and claim 13 recites wherein the association constant for binding of the protein to the complex is at least 10^7 M^{-1}.

Claims 6 and 23 of the instant application recite "enzyme", whereas the claims 10 and 24 of 10/371,942 recite label. The claims of the instant application do not recite single chain antibody, whereas claim 11 of 10/371,942 recites wherein the VH and VL domains are components of the same polypeptide chain, i.e., are a single chain. Claims 10, 17 and 25 of the instant application recite "viral HLA-restricted antigen", claims 9, 16 and 24 recite "tumor

HLA-restricted antigen", and claims 2, 14 and 20 recite specific HLA molecules such as HLA-A2 and HLA-A1.

WO 97/02342 A1 teaches antibodies specific for antigenic peptide/MHC class I molecules, including viral, autoimmune and tumor-derived antigenic peptides and including HLA-A, B or C of humans, said antibodies in pharmaceutical compositions with pharmaceutically acceptable excipients well known in the art used for treatment of infectious or autoimmune disease or cancer, and compositions and kits thereof comprising the antibodies for diagnosis of said diseases and cancer by identification of expression of the complexes on cells. WO 97/02342 A1 teaches production of said antibodies by producing mice transgenic for the one of the said HLA molecules, immunizing the mice with the said antigenic peptide/HLA molecules, producing and selecting the antibodies using phage display library technology. WO 97/02342 A1 teaches labeling the antibodies with enzyme or biotin or a therapeutic moiety such as SEA, antibiotics, cytotoxic or antineoplastic agents, with toxins, or making bispecific antibodies, i.e., a bispecific antibody moiety. WO 97/02342 A1 teaches affinity of the antibodies are from 10^{-7} to 10^{-10} M, i.e., the range includes 1 nM, i.e., less than 20 nM recited in instant claim 1. WO 97/02342 A1 further teaches that the affinity or other thermodynamic characteristics of the antibodies may be altered using conventional techniques to prepare antibodies with the same specificity, i.e., such as with the same specificity and higher affinity (see entire document).

It would have been prima facie obvious to one of ordinary skill in the art to have made the label recited in claims 10 and 24 of 10/371,942 the enzyme label taught by WO 97/02342 A1.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to label the antibody as taught by WO 97/02342 A1 for detection purposes.

In addition, the single chain antibody taught by WO 97/02342 A1 and recited in claim 11 of 10/371,942 is a species of antibody encompassed by the claims of the instant application. The recitation of at least 10^{7} M^{-1} in claim 1 of 10/371,942 is a species that reads upon binding affinity below 20 nM recited in claim 1 of the instant application, and an obvious range for antibody affinities for antibodies specific for MHC/peptide complexes is taught by WO 97/02342 A1 to be 10^{-7} to 10^{-10} M.

WO 95/29193 A2 teaches the gp100G9-209 peptide IMDQVPFSV binds to HLA-A2.1, is immunogenic and further teaches use of the said peptide to treat melanoma (especially page 92-113 and abstract), and Rammensee et al teach the HTLV-1 tax peptide [11-19] LLFGYPVYV binds to HLA-A2 and is immunogenic, i.e., is a T cell epitope that binds class I.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have made an antibody/composition thereof/conjugate thereof against HLA-A2.1 taught by WO 95/29193 A2 and Rammensee et al complexed with one of the peptides also taught by WO 95/29193 A2 such as gp100G9-209 (said peptide recited in claim 4 of 10/371942) or complexed with the HTLV-1 tax peptide [11-19] taught by Rammensee et al.

One of ordinary skill in the art at the time the invention was made would have been motivated to do this in order to treat melanoma or HTLV-1 infection because WO 95/29193 A2 teaches the gp100G9-209 peptide IMDQVPFSV binds to HLA-A2.1, is immunogenic and further teaches use of the said peptide to treat melanoma, and Rammensee et al teach the HTLV-1 tax peptide [11-19] LLFGYPVYV binds to HLA-A2 and is immunogenic, i.e., is a T cell epitope that binds class I. The peptides taught by WO 95/29193 A2 and Rammensee et al as the gp100 peptide or the tax peptide, respectively, recited in the claims of 10/371,942 are obvious species of tumor or viral HLA restricted antigens encompassed by the instant claims.

14. Claims 1-4, 6-10, 12-17, 19-21 and 23-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4, 6-9, 14-24, 26-30, 32-35, 40-50 and 52 of copending Application No. 10/376,578 (publication US 2004/0191260 A1) as evidenced by WO 97/02342 A1 (Applicant's IDS reference), Rammensee et al, and Reiter et al (PNAS USA 94: 4631-4636, 1997, Applicant's IDS reference). This is a provisional obviousness-type double patenting rejection.

The claims of copending Application No. 10/376,578 are drawn to an antibody/fragment thereof/composition thereof specific for a human antigen presenting molecule such as HLA and an antigen derived from a pathogen such as an HTLV-1 polypeptide antigen, including the antibodies and fragments such as monoclonal multimeric, human or humanized, scFv or Fab, and further comprising a toxin such as Pseudomonas exotoxin A or portion thereof, or a detectable moiety. The claims reciting "tumor HLA-restricted antigen" are included in the instant rejection because one of ordinary skill in the art at the time the invention was made would have been aware that viral antigens could be tumor antigens.

Evidentiary reference WO 97/02342 A1 teaches antibodies, including single chain Fv, Fab, monoclonal, human and humanized, and multimeric complexes thereof, specific for antigenic peptide/MHC class I molecules, including viral, autoimmune and tumor-derived antigenic peptides and including HLA-A, B or C of humans, said antibodies in pharmaceutical compositions with pharmaceutically acceptable excipients well known in the art used for treatment of infectious or autoimmune disease or cancer, and compositions and kits thereof comprising the antibodies for diagnosis of said diseases and cancer by identification of expression of the complexes on cells. WO 97/02342 A1 teaches production of said antibodies by producing mice transgenic for the one of the said HLA molecules, immunizing the mice with the said antigenic peptide/HLA molecules, producing and selecting the antibodies using phage display library technology. WO 97/02342 A1 teaches labeling the antibodies with enzyme or biotin or a therapeutic moiety such as SEA, antibiotics, cytotoxic or antineoplastic agents, with toxins, or making bispecific antibodies, i.e., a bispecific antibody moiety. WO 97/02342 A1 teaches affinity of the antibodies are from 10^{-7} to 10^{-10} M, i.e., the range includes 1 nM, i.e., less than 20 nM recited in instant claim 1. WO 97/02342 A1 further teaches that the affinity or other thermodynamic characteristics of the antibodies may be altered using conventional techniques to prepare antibodies with the same specificity, i.e., such as with the same specificity and higher affinity (see entire document).

Evidentiary reference Rammensee et al teach the HTLV-1 tax 11-19 retroviral peptide ILFGYPVYV (page 239) is a T cell epitope that binds to HLA-A2.1.

Evidentiary reference Reiter et al teach antibodies, Fab, to murine class I H-sK^k/HA(255-262) viral peptide and recombinant toxin fusion proteins thereof, or fusion proteins comprising the antibodies conjugated to radioisotopes or cytotoxic drugs. Reiter et al teach the antibodies or fragments conjugated to Pseudomonas exotoxin that contains the translocation and ADP ribosylation domains of the entire exotoxin.

As evidenced by the references supra, the following limitations recited in the claims of the said copending application are obvious species of the instant claims: 'pathogen' for viral HLA-restricted antigen, 'mAb/fragment', 'scFv', 'human' or 'humanized' antibody for molecule comprising an antibody, 'single chain HLA molecule' for human MHC class I molecule, 'Pseudomonas exotoxin A or portion thereof' for a cytotoxic, toxic or therapeutic moiety, 'HTLV-1 pathogen derived polypeptide' for viral HLA-restricted antigen. The range of affinity recited in claim 8 of the said copending application reads on the affinity value of 20nM recited in the instant claims.

15. SEQ ID NO: 9 appears to be free of the art.

16. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Marianne DiBrino whose telephone number is 571-272-0842. The Examiner can normally be reached on Monday, Tuesday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Christina Y. Chan, can be reached on 571-272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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